



**JOHANSON WIND PROJECT**  
**INVESTIGATIVE LICENCE APPLICATION**  
**INVESTIGATIVE PLAN**

July 2013

## **INVESTIGATIVE PLAN**

### **JOHANSON WIND PROJECT, BRITISH COLUMBIA**

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**1 CONTENTS**

<b>2</b>	<b>SECTION A – PROPONENT AND PROJECT OVERVIEW .....</b>	<b>6</b>
2.1	Company Profile .....	6
2.2	Project Overview .....	6
<b>3</b>	<b>SECTION B – MAPS OF AREA .....</b>	<b>7</b>
<b>4</b>	<b>SECTION C – INVESTIGATIVE ACTIVITIES AND SCHEDULE .....</b>	<b>7</b>
4.1	Wind Measurement .....	8
4.2	Construction Feasibility .....	¡Error! Marcador no definido.
4.3	Environmental Screening .....	9
4.4	Turbine Layout .....	9
4.5	Environmental Assessment .....	9
4.6	Geotechnical Studies .....	9

**TABLE OF TABLES**

Table 4-1: Intended Activities	7
Table 4-2: Met Mast coordinates (UTM Zone 9, NAD83)	8

## **2 SECTION A – PROPONENT AND PROJECT OVERVIEW**

### **2.1 Company Profile**

Elecnor is one of Spain's most illustrious business groups and an industry benchmark in infrastructure, renewable energy and new technology with over 50 years of continuous growth, a presence in 30 countries, and 12,000 employees.

Elecnor created Enerfin in 1997 to become a developer and investor on the wind energy market. Enerfin contributes its human, technical and financial skills, applied to the management of wind energy investment projects, to all its development stages.

Enerfin is involved in 903 MW of operating wind power located in Spain and Brazil, and its first wind Project in Canada, located in the province of Quebec, is due to start operation by the end of 2013.

Enerfin's main fields of operation are as follows:

- Technical studies: Assessment of wind potential and production studies. Environmental impact studies and environmental monitoring of wind farms. Study and selection of technology. Basic infrastructure and installation projects.
- Economic and financial studies.
- Administrative processing of projects.
- Management of permits and authorisations.
- Construction and detailed engineering projects.
- Supervision of "turnkey" construction.
- Management of the operation (technical, administrative, accounting and financial).

Enerfin created Enerfin Developments British Columbia in 2013 to develop wind energy projects in British Columbia.

### **2.2 Project Overview**

Johanson Wind Project (the "Project") is located at the boundary of the Peace River and Stikine Regional Districts, in the vicinity of Johanson Lake and Johanson Peak, approximately 50 km southeast of Thutade Lake. The primary purpose of the Project will be to supply electricity to the BC electrical grid. During the investigative phase, the technical feasibility of the Project will be further assessed. Enerfin will also perform preliminary consultation with stakeholders and First Nations if required during this time period.

Enerfin is expecting that the Project could produce up to 200 MW, but the site capacity will be further assessed during the investigation phase. The total size of the Investigative Licence Application Area is 4907 ha.

The Project will include typical wind project infrastructure, such as the following: wind turbine generators (WTGs) and foundations, access road(s), electrical collection system network, substation, meteorological masts, and operation & maintenance building. The number of WTGs will be determined during the investigative phase. The Project will also include a transmission line to interconnect to the BC electrical grid but the exact transmission route has not yet been

determined. Temporary infrastructure will be required during the construction and will include storage areas, laydown area and crane pads.

The site will be mainly accessed using existing forestry roads, where possible. If not, access to the site will be achieved by ATV or foot. Upgrading the existing road and/or the construction of new corridors may be required for the meteorological mast installation. If necessary, helicopters may be used to access the site.

The proposed location of meteorological masts is shown on the accompanying map by a label "M1" to "M5". Prior to any changes being made with or to improvements, and prior to any activities such as drilling or road construction, Enerfin will notify the Authorizing Agency as soon as the information is known to maintain the tenure in good standing.

### 3 SECTION B – MAPS OF AREA

As required by the application form, a General Location map at a scale of 1:250,000 is included in Appendix A and a Detailed Site Map at a scale of 1:50,000 is included in **¡Error! No se encuentra el origen de la referencia..**

### 4 SECTION C – INVESTIGATIVE ACTIVITIES AND SCHEDULE

A chart of the intended activities by type, year and season and potential impacts is presented below to assist Authorizing Agency staff in assessing the use of the land. The intended activities are further described in Table 4-1 below.

**Table 4-1: Intended Activities**

Activity	Brief Description of Activity	Time Period	Potential Impact
Wind Measurement	Site visit, install and maintain mast(s).	When weather permits within the 4 years after the reception of the Investigative Licence (IL)	If required, vegetation clearing at the mast location and to access the site.
Construction Feasibility	Site visit	When weather permits after reception of the IL	None
Environmental Screening	Analysis of desktop critical issues, preliminary field surveys and preliminary consultation with stakeholders if needed	During 1 <sup>st</sup> or 2 <sup>nd</sup> summer after reception of the IL	None
Turbine Layout	Site visit and field surveys if needed	Within the 1 <sup>st</sup> or 2 <sup>nd</sup> summers after reception of the IL	None
Environmental Assessment (EA)	Surveys: birds, bats, wildlife, vegetation, water bodies, visual impact, archaeology, land use, etc.	Preliminary studies 2 <sup>nd</sup> year after reception of the IL. Full EA if Electricity Purchase Agreement (EPA) is awarded	None
Geotechnical studies	Shallow boreholes.	After 3 <sup>rd</sup> year after reception of the IL (If EPA is awarded)	If needed, minor vegetation clearing and/or water sourcing.

As part of the requirements of the tenure document, if changes are made to the investigative activities that include placement of improvements that were not part of the original submission of the investigative plan, Enerfin will notify the appropriate Authorizing Agency staff as soon as the information is known, prior to making the changes and to maintain the tenure in good standing.

The following sections further describe the intended activities.

#### 4.1 Wind Measurement

Five (5) met mast positions have been identified. Enerfin intends to determine during a site visit which of these positions is the most feasible and representative, once the Investigative Licence has been assigned. Once it has been determined, supply and installation offers will be requested and an order will be placed.

The installation will take place within the 4 years after reception of the Investigative Licence, when weather permits. Wind measurements will be collected for at least one year, to assess the site's wind resource and to determine whether to install additional masts. The on-site activities related to the wind measurement will last up to 4 years.

The appropriate permits will be sought and/or replacement applications will be prepared if any of the following activities are required for the meteorological mast installation: access road construction, upgrade of an existing access road or vegetation clearing.

The identified mast coordinates are presented in Table 4-2 below.

**Table 4-2: Met Mast coordinates (UTM Zone 9, NAD83)**

<b>Mast ID</b>	<b>Easting</b>	<b>Northing</b>
M1	670173	6277263
M2	672405	6279597
M3	675475	6279969
M4	678446	6278630
M5	680860	6275921

Given that no site prospection has been realized yet, the final mast coordinates might differ slightly. A 100 m x 100 m box around these coordinates has been delineated for the area potentially required for clearing to install the met masts therein.

#### 4.2 Construction Feasibility

In order to better assess the construction feasibility of the Project, Enerfin will perform a site visit when weather permits after the reception of the Investigative Licence. The site condition and accessibility will be further assessed during this visit.

After the site visit, and in case construction is considered not to be feasible, further work as installation of met mast or environmental screening will not be performed. The Proponent will advise MFNRO in the event they decide to abandon interest in the tenure.



### 4.3 Environmental Screening

Enerfin will conduct an environmental screening of the site which will include a site visit during the 1<sup>st</sup> or 2<sup>nd</sup> summer after reception of the Investigative Licence.

The environmental screening will include desktop critical issues analysis, preliminary field surveys and preliminary consultation with stakeholders. Enerfin will also perform preliminary consultation with interested First Nations to discuss the proposed activities and identify potential concerns.

The environmental screening will be undertaken prior to initiating the EA process.

### 4.4 Turbine Layout

Enerfin will undertake field surveys in order to further investigate potential wind turbine locations, within the 1<sup>st</sup> or 2<sup>nd</sup> summers after receipt of the Investigative Licence.

### 4.5 Environmental Assessment

Enerfin intends to initiate the EA process in accordance with the *Environmental Assessment Act* [SBC 2002, c43] with the Environmental Assessment Office (EAO) after the reception of an EPA. The EA will include surveys and studies such as:

- Consultation with local communities and First Nations;
- Birds, bats and wildlife surveys;
- Vegetation surveys;
- Waterbodies;
- Archaeology;
- Visual Impact;
- Noise Impact;
- Electromagnetic Interference Impact;
- Land Use;
- Etc.

The appropriate permits will be sought for all the activities that might be required such as under the *Heritage Act* [RSBC 1996, c187] and *Wildlife Act* [BC Reg 340/82].

### 4.6 Geotechnical Studies

Enerfin will undertake geotechnical studies after award of an EPA for the Project. The purpose of such studies will be to characterize the ground condition in the vicinity of proposed turbine foundations and access roads. The

geotechnical work will include boreholes. The appropriate permits will be sought for all the activities that might be required to perform the drilling, such as vegetation clearing or water use.

## **APPENDIX A      GENERAL LOCATION MAP**

## **APPENDIX B      DETAILED SITE MAP**